

1 CLAIMS

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3 We Claim:

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5 1. A dry-wet thermal management system, comprising:

6 a chassis having a dry chamber and a spray chamber, wherein said dry chamber  
7 is capable of receiving at least one dry card and wherein said spray chamber is capable  
8 of receiving at least one wet card; and

9 a spray unit within said spray chamber for applying coolant to a wet card.  
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12 2. The dry-wet thermal management system of Claim 1, wherein said dry  
13 chamber includes a fan for forcing air over a dry card.  
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16 3. The dry-wet thermal management system of Claim 1, including:

17 a first opening within a rear portion of said chassis extending into said spray  
18 chamber;

19 a second opening within said rear portion of said chassis extending into said dry  
20 chamber; and

21 a main backplane attached to said rear portion of said chassis, wherein said  
22 main backplane has at least one dry socket extending into said dry chamber and at least  
23 one wet socket extending into said spray chamber.  
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26 4. The dry-wet thermal management system of Claim 3, wherein said main  
27 backplane is sealed to said rear portion of said chassis about said first opening and said  
28 second opening.  
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2           5. The dry-wet thermal management system of Claim 4, including a seal  
3 positioned between said rear portion of said chassis and said main backplane.

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6           6. The dry-wet thermal management system of Claim 5, wherein said seal is  
7 comprised of a single structure.

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10           7. The dry-wet thermal management system of Claim 5, wherein said seal is  
11 comprised of a first seal surrounding said first opening and a second seal surrounding  
12 said second opening.

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15           8. The dry-wet thermal management system of Claim 4, including a sealant  
16 positioned between said rear portion of said chassis and said main backplane.

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19           9. The dry-wet thermal management system of Claim 1, including a spray  
20 cooling management unit fluidly connected to said spray unit and said spray chamber.

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23           10. The dry-wet thermal management system of Claim 1, including:

24           a first opening within a rear portion of said chassis extending into said spray  
25 chamber;

26           a second opening within said rear portion of said chassis extending into said dry  
27 chamber;

28           a main backplane attached to said rear portion of said chassis, wherein said  
29 main backplane has at least one dry socket extending into said dry chamber; and

1 a secondary backplane attached to said rear portion of said chassis and  
2 electrically coupled to said main backplane, wherein said secondary backplane has at  
3 least one wet socket extending into said spray chamber.  
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6 11. The dry-wet thermal management system of Claim 10, including a  
7 connector member electrically positioned between said main backplane and said  
8 secondary backplane.  
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11 12. The dry-wet thermal management system of Claim 10, wherein said  
12 secondary backplane and said main backplane are sealed to said rear portion of said  
13 chassis about said first opening and said second opening respectively.  
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16 13. The dry-wet thermal management system of Claim 12, including a seal  
17 positioned between said rear portion of said chassis and said main backplane and said  
18 secondary backplane.  
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21 14. The dry-wet thermal management system of Claim 13, wherein said seal is  
22 comprised of a single structure.  
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25 15. The dry-wet thermal management system of Claim 13, wherein said seal is  
26 comprised of a first seal surrounding said first opening and a second seal surrounding  
27 said second opening.  
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1           16. The dry-wet thermal management system of Claim 12, including a sealant  
2 positioned between said rear portion of said chassis and said main backplane.

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5           17. The dry-wet thermal management system of Claim 1, wherein said dry  
6 chamber includes a plurality of vents for allowing air to pass over a dry card.

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9           18. A method of utilizing a thermal management chassis having a dry chamber  
10 and a wet chamber, said method comprising the steps of:

11           (a) positioning at least one high heat flux card within said wet chamber;

12           (b) positioning at least one low heat flux card within said dry chamber;

13           (c) applying liquid coolant upon said high heat flux card; and

14           (d) applying airflow upon said low heat flux card.

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17           19. The method of utilizing a thermal management chassis of Claim 18,  
18 wherein said high heat flux card and said low heat flux card are electrically connected  
19 within sockets of a main backplane.